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Studies on the flora of Southern California — III

LE ROY ABRAMS

***Lepidium bernardinum* sp. nov.**

Root stout, perpendicular ; stem simple below, branched above, or in small specimens simple, 4–6 dm. high, pubescent below with short, deflexed hairs, puberulent above ; basal leaves oblanceolate, the blade toothed, 3–5 cm. long, tapering to a slightly longer, somewhat winged petiole, pubescent ; petiole ciliate on the margin ; stem-leaves narrowly oblanceolate, sessile, pubescent, toothed, those of the ultimate branches becoming entire and nearly linear ; sepals slightly exceeding 1 mm. in length ; petals oblanceolate, scarcely equaling the sepals ; silicles glabrous, 3.5 mm. broad, orbicular or slightly longer than broad, on slender, puberulent, widely spreading, terete pedicels, which are about 5 mm. long ; cotyledons incumbent.

A near relative of *Lepidium medium*, but readily distinguished by its pubescence, broader leaves, and larger silicles.

Lepidium bernardinum is common in the coniferous forests of the southern California mountains. The type, which is deposited in the herbarium of the New York Botanical Garden, was collected by the writer (2826) in Bear Valley, San Bernardino Mountains, July, 1902.

***Cercocarpus minutiflorus* sp. nov.**

Shrub 2–2.5 meters high, with herbage glabrous throughout ; leaves obovate, cuneate at base, serrate-toothed on the rounded summit, 1–2 cm. long, green and shiny beneath, thin ; veins 3 or 4 pairs ; petioles 4 mm. long ; pedicels slender, 7 mm. long ; calyx-tube 12 mm. long (in young fruit), 1 mm. broad ; calyx-limb 2 mm. broad, minutely and very sparsely tomentulose, its lobes subulate-triangular.

The small bright green leaves distinguish this species at once in the field. The minute calyx-limb with its almost subulate lobes are, also, quite unlike the silky-tomentose calyx-limb and broadly triangular lobes of *C. betulaeifolius*.

This species belongs to the chaparral belt of southwestern San Diego County, where it seems wholly to replace *C. betulaeifolius*.



FIGURE 1. Photograph of the type specimen of *Amelanchier recurvata* Abrams, about two fifths of its natural size.

The type was collected by the writer (3376) in dry chaparral-covered hills, near San Dieguito (Bernardo), May 4, 1903.

The type sheet of this species, as well as those of the following new species, is deposited in the herbarium of the Leland Stanford Jr. University.

***Amelanchier recurvata* sp. nov.**

Low spreading shrub, 1-1.5 meters high; branches slender, spreading and more or less drooping, their bark reddish brown; leaves mostly broadly oblong, 15-25 mm. long, distinctly serrate on the rounded or truncate summit, sparsely tomentulose on both surfaces; veins in 7 or 8 pairs, prominent; petioles slender, 4-6 mm. long; racemes 4-7-flowered; pedicels nearly or quite glabrous, reddish; calyx glabrous without at flowering time, its lobes sharply acute, 3 mm. long, strongly recurved, villous within; petals oblanceolate, 10 mm. long, rounded at the apex, 3.5-4 mm. broad. [FIGURE 1.]

Amelanchier recurvata has the foliage aspect of *A. venulosa*, but is distinguished by its slender, spreading habit, its more glabrous foliage and inflorescence, and by its larger flowers.

Topatopa Mountains, altitude 5500 feet, Ventura County, *Abrams & McGregor* 107, June 4, 1908.

***Lupinus Hallii* sp. nov.**

Shrubby, 6-10 dm. high; herbage canescent with a short appressed silky pubescence; leaflets 7-9, spatulate, 12-24 mm. long; petioles slender, 2.5-4.5 cm. long; peduncles 20-25 mm. long; flowers mostly in whorls 2-3 cm. distant; bracts ovate-lanceolate, acuminate, caducous, 7 mm. long; calyx-lobes 1 cm. long, the upper 2-lobed (lobe 2 mm. long), the lower 3-toothed; standard 15 mm. long, nearly orbicular; wings 15 mm. long, 8 mm. broad, completely enclosing the keel; keel strongly falcate, 5 mm. broad at the angle, conspicuously ciliate on the central part of the inner margins; pod about 4 cm. long, silky-pubescent, 5- or 6-seeded. [FIGURE 2.]

Distinguished from *L. albifrons*, which seems to be confined to central California, by the size of the flower and the structure of the calyx. *L. albifrons* has petals scarcely 10 mm. long, the lower calyx-lobe entire, and the upper lobed to near the middle. The large size of the flower in *L. Hallii* is like that of *L. longifolius*, but the latter has much larger leaves, which are less silky-pubescent, and calyx-lobes of the *L. albifrons* type.



FIGURE 2. Photograph of the type specimen of *Lupinus Hallii* Abrams, about two fifths of its natural size.

Type collected in Reche Cañon, altitude 400 meters, San Bernardino County, *H. M. Hall*, May 15, 1901. *Parish 4772*, collected in the vicinity of San Bernardino, May, 1901, also belongs here.

Rhamnus pilosa (Trelease) Abrams, comb. nov.

Rhamnus crocea, var. *pilosa* Trellease; Curran, Proc. Cal. Acad.

II. 1: 251. 1888.

A small arborescent shrub with grayish bark and pilose herbage; leaves broadly ovate or nearly orbicular, 15–30 mm. long, spinose-serrate; calyx of staminate flowers 3.6 mm. long, its lobes ovate-lanceolate, 1.7 mm. long; anthers 0.5 mm. long, nearly as broad; filaments scarcely dilated at base, nearly twice the length of the anthers; fruiting pedicels equaling the glabrous capsules.

This species, which was originally collected in the "Santa Maria Valley, in the mountains back of San Diego," is apparently confined to the San Diego district. It is nearest related to *Rhamnus ilicifolia*, but differs in the pilose herbage, the shorter and broader calyx-lobes, and the minute anthers, which are scarcely half the size.

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